

Chapter 7: Transportation

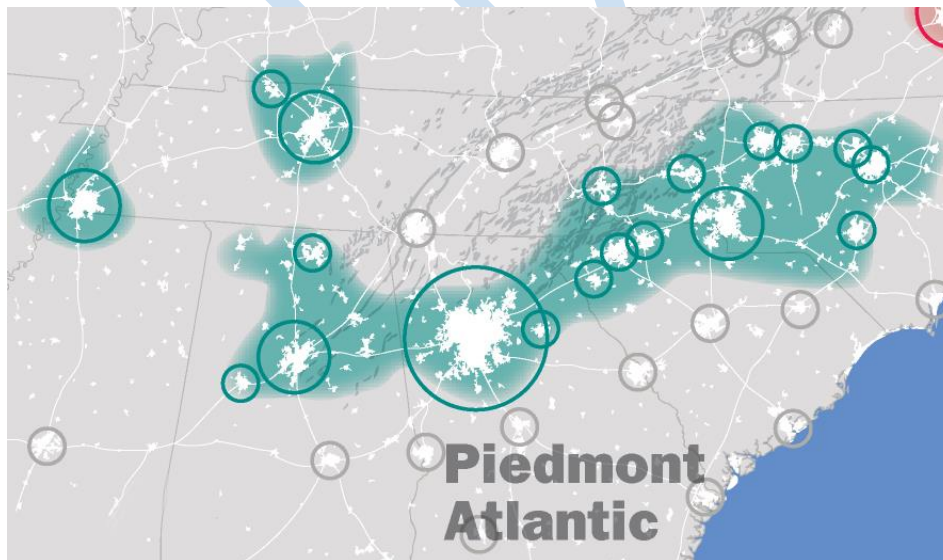


Overview of Transportation Planning

Transportation planning deals with the movement of people and goods throughout a city or a region and is not limited to automobiles and streets only. In fact, it is multi-faceted and includes several systems; a road network for motorized vehicles; pedestrian and bicycle networks; transit; and networks for rail, freight and aviation. CompPlan 2035 recognizes that all of these networks are vital to maintaining a healthy, well-connected, mobile region in the future.

While CompPlan 2035 focuses on transportation systems for the City of Lincoln, it acknowledges that the transportation systems locally are part of a larger system of transportation networks in the region. The figure below shows how Lincoln is centrally situated along the western corridor of an emerging megaregion known as the Piedmont Atlantic Region. This megaregion is anchored by Atlanta, GA, but extends east to west from Raleigh, North Carolina to Birmingham, Alabama. The 14.8 million population of the region (2000 estimate) is anticipated to grow to 20.5 million by 2025.¹

Figure 1



Source: www.america2050.org

Lincoln is connected to the heart of this region by highways that include Interstate 20, US Highway 77, US Highway 431 and other state and local highways. These, in turn, provide access to major international airports, existing passenger rail service and long distance bus service.

Within the region there are a number of airport facilities available to residents and visitors to Lincoln. The city is served by international air travel through Hartsfield-Jackson Atlanta International Airport and Birmingham-Shuttlesworth International Airport. Regional airports in Gadsden, Oxford and Centre, Alabama provide additional service.

Passenger rail service through the region is provided along the Amtrak Crescent line which serves stations in Tuscaloosa, Birmingham, and Anniston, as well as Atlanta. The Federal Government continues to consider high speed rail services that would connect Houston, New Orleans, Birmingham, Atlanta and Raleigh to another proposed rail line along the eastern seaboard from Jacksonville, Florida to Boston, Massachusetts. Also, the State of Alabama has representation on the Southern High-Speed Rail Commission (SHSRC) that was founded in 1981 with a mission to improve mobility and access for passenger rail users in Alabama, Louisiana and Mississippi.

Long distance bus service is available along the I-20 corridor and U.S. 431 with a stations in Anniston, Gadsden and Sylacauga.

Transportation Planning at the Regional Level

East Alabama Regional Planning and Development Commission (EARPDC) coordinates with the Metropolitan Planning Organizations (Gadsden/Etowah and Anniston/Calhoun) in the region. Both these MPOs maintain long range transportation plans.

The RPO is structured similar to a Metropolitan Planning Organization with a Policy Committee as well as a Technical Advisory Committee. The region is divided into three smaller RPO districts (Lincoln is in the Central District) with Policy and Technical Advisory Committees meeting on a quarterly basis. The mayors and representatives of the county commissions serve on the RPO District Policy Committees along with ALDOT representatives. Each member jurisdiction also appoints representation to the Technical Advisory Committee. The rural areas of the region, where Lincoln is located, are served by a 10-county Coordinated Public Transit and Human Services Transportation Plan. Additionally, there are several nonprofit entities that provide transit services to residents of the region. The Rural Planning Organization exists to convey to the State of Alabama Department of Transportation needs which exist outside of the Metropolitan Planning Organization jurisdiction.

There are several “demand response” transportation services in Talladega County, they are located in Childersburg, Oak Grove, Sylacauga, and Talladega. These provide a fee based service to persons calling to schedule a pick-up service.

Local

In addition to the planning efforts of the RPO and State of Alabama, the City should maintain long-range and short-range transportation plans that are administered by the Public Works Department. Programming of funds would be handled through the City's Capital Improvements Program as part of the City's Budget.

Plans that should be included are as follows:

A comprehensive transportation planning document should be developed to look locally at the various transportation networks in the city including, streets, pedestrians, bicycles and parking. It should also include a pavement management plan for local streets.

Major Street Plan. This is a map of the street network that shows streets in their respective classifications (arterial, collector, residential), including proposed arterials and collector streets. (Figure #) This can be an independent document or part of the comprehensive transportation plan.

Sidewalk Master Plan. This is a map of the sidewalk network showing streets where there are existing sidewalks and where sidewalks are proposed.

Sidewalk Policy Planning and Procedures. This is a policy document that establishes criteria for the construction or reconstruction of sidewalks in public rights-of-way in the city.

Sign Policy. This policy document should set out formal policy and guidelines for the benefit of developers and their agents or other interested parties on the nature and types of street name signs and regulatory signs the City of Lincoln will accept. This policy should also outline the requirements for installation of new street name signs.

Transportation and the Environment

The convenience and economic value of transportation systems come with environmental tradeoffs. Construction and maintenance of transportation systems often affect one or more of the following: air quality, water quality, noise, wildlife, natural resources, cultural and historic resources, wetlands, floodplains, agricultural land, parks and open space. Additionally, because the location of transportation systems is so closely linked to economic development and land use, there has been growing attention paid to environmental justice in the field of transportation planning. Environmental justice seeks to avoid, minimize or mitigate negative disproportionately high impacts on minorities, and low-income populations.² Alabama's Statewide Transportation Plan (June 2008) describes environmental issues as follows:

RESOURCE/ISSUE	SIGNIFICANCE	REGULATORY BASIS
Air Quality	Public health, welfare, productivity, and the environment are degraded by air pollution	Clean Air Act of 1970; 40 CFR Parts 51 & 93; State Implementation Plan
Noise	Noise can irritate, interrupt and disrupt, as well as generally diminish the quality of life	Noise Control Act of 1972; ALDOT's highway Traffic Noise Analysis Policy and Guidance
Wetlands	Flood control, wildlife habitat, water purification; applies to both State and Federally funded projects	Clean Water Act of 1977; Executive Order 11990; 23 CFR 777
Threatened & Endangered Species	Loss of Species can damage or destroy ecosystems, to include the human food chain	Endangered Species Act of 1973; 7 CFR 355
Floodplains	Encroaching on or changing the natural floodplain of a water course can result in catastrophic flooding of developed areas	Executive Order 11988; 23 CFR 650; 23 CFR 771
Farmlands	Insure conversion compatibility with State and local farmland programs and policies	Farmland Protection Policy Act of 1981; 7 CFR 658
Recreation Areas	Quality of life; neighborhood cohesion	Section 6(f) of the Land and Water Conservation Fund Act; Section 4(f) of the DOT Act of 1966 (when applicable); 23 CFR 771
Historic Structures	Quality of life; preservation of the national heritage	National Historic Preservation Act of 1966 (Section 106); Section 4(f) of the DOT Act of 1966 (when applicable); 23 CFR 771; 36 CFR 800
Archaeological Sites	Quality of life; preservation of national and Native American heritage	National Historic Preservation Act of 1966 (Section 106); Section 4(f) of the DOT Act of 1966 (when applicable); 23 CFR 771; Executive Order 13175
Environmental Justice	To avoid, minimize or mitigate disproportionately high impacts on minorities and low-income populations; basic American fairness	Title VI, Civil Rights Act of 1964; Executive Order 12898

Local Street Network

The existing system of roads in the City of Lincoln continues to grow. Currently, the City's road network consists of *** miles of roadway. This network is composed of streets of varying classifications. These roads are broken down by types as follows:

Interstates

Interstate – controlled access facilities with four or more lanes that provide fast and efficient movement of large volumes of traffic over a considerable distance by prohibiting access (ingress and egress) except at controlled intervals.

Arterials

Arterial - a facility that serves as a primary artery of the city intended to mainly carry through traffic and to connect major activity centers in the City and its planning jurisdiction. Its function is to move intra-city and intercity traffic. The streets that are classified as arterials may also serve abutting property; however, their primary purpose is to carry traffic. Arterials should not be bordered by uncontrolled strip development. Access to these facilities should be carefully managed to ensure the capacity of the facility is not comprised by driveways. Arterials vary in width and parking on-street is prohibited.

Collector Streets

Collector - a street whose primary function is to collect traffic from an area and move it to the arterial street system while also providing substantial service to abutting land uses. A collector roadway will generally have lower design speeds than arterial roadways but higher than local streets.

Residential Collector Street – a street whose primary function is to provide direct access to residential properties as well as residential subdivisions. Typically, residential collector streets collect traffic from local streets in residential neighborhoods and channel it to the arterial and collector system.

Local Streets

Local Commercial Street – all minor streets, marginal access streets and cul-de-sacs serving primarily commercial developed property.

Local Residential Streets – all minor streets, marginal access streets and cul-de-sacs serving primarily residential property.

Marginal Access Roadway - a street that runs parallel to a major street, generally an arterial. Its purpose is to separate through traffic from local traffic, and to provide access to abutting properties. A service road in commercial/business areas intended to remove traffic from arterials would be considered a marginal

roadway. An access street in residential areas intended to remove local traffic from arterials and to buffer abutting residential lots from the effects of highway traffic as well as to limit the number of direct driveway accesses to arterials for safety purposes is also considered a marginal roadway.

Cul-de-sac - a local street with one outlet and having an appropriate terminal for the safe and convenient reversal of traffic movement.

Alley - a public right-of-way primarily designed to provide a secondary access to the side or rear of properties.

Table #: Busiest Roadway Segments

Road Type	Miles
Interstate 20	39,910 ADT
Highway 77 @ Blue Eye Road East	7,410 ADT
Highway 78 <i>between Highway 77 and Magnolia</i>	9,300 ADT
Highway 78 @ Clover Road	7,320 ADT

Design Standards and Access Management

Access management deals with how transportation users gain access to the transportation system, where, and at what frequency. When looking at roads, this is often done through examination of standards for intersections and driveway placement. The more access points there are on a road, the more likely conflicts arise that can affect traffic flow and safety. The City should develop and maintain access management standards, including the development of standards for driveway spacing.

Pedestrian and Cycling Network

Regardless of one's mode of transportation, at some point in their trip, everyone becomes a pedestrian. Walking has been the most common mode of transportation since the city was founded. Lincoln is a city full of pleasant neighborhoods, a quaint historic downtown posed for revitalization, and beautiful natural resources all of which lend themselves to walking and biking.

Low density, auto-centric development predominant in the 20th century provides challenges for biking and walking in any city and Lincoln is no exception. As part of this Comprehensive Plan Lincoln should formally recognized the need for a community network of sidewalks and bicycle trails that will allow citizens to utilize alternative modes of transportation.

One means of responding to this need is to update the Subdivision Regulations to require that sidewalks be included in all new subdivisions. Additionally, the City Council should support the construction of new sidewalks in areas of high pedestrian movements. With added interest and awareness of health and environmental benefits, and as gas prices continue to fluctuate, it is reasonable to expect that use of sidewalks and bikeways will increase and become part of the daily routine for many citizens.

The City should establish a policy to have sidewalks on city streets wherever needed for the benefit of health, safety, and welfare of the citizens. This policy should focus attention on areas of high pedestrian movement, particularly around schools, and on “missing links” in the sidewalk network. At the State level, the Department of Transportation has been tasked, through the Statewide Transportation Plan, with a statewide bicycle and pedestrian planning effort that will address statewide needs as well as include each urbanized area’s plan for bicycle and pedestrian facilities.

At the national level, among various transportation programs, federal transportation law has introduced a Safe Routes to School Program with the primary aim of encouraging children, including those that are disabled, to walk and bicycle to school. The purpose of this program is to make walking and bicycling safer and more appealing as a means of access to school. The program apportions funds to states based on the amount of enrollment in primary and middle schools. In addition, federal legislation permits cities constructing bicycle and sidewalk facilities to dip into several funding sources including those set aside for congestion mitigation, improvements to air quality and other transportation enhancement funds. Other federal aid funds can be used as appropriate.

To be eligible for Safe Routes to School funding, a project must meet various criteria. Infrastructure projects such as sidewalks, bike paths, crosswalks and other construction or operational improvements must be located within two miles of an elementary or middle school. Projects cannot exceed a total of \$150,000, but can apply to more than one school. In order to ensure the equitable distribution of funds, applicants must define their status as either urban or non-urban.

Analysis

For the most part, planning for transportation facilities in the City of Lincoln takes place primarily outside of the comprehensive planning process. The focus of this transportation section is on those aspects of transportation that are most closely tied to land use, and vice versa. There are opportunities in future iterations of the plan to more comprehensively integrate land use and transportation planning.

Connectivity

Connectivity is the overall connectedness of a street network. Are streets laid out on a grid, or do subdivisions consist of a series of loops and cul-de-sacs with one or two entrances and exits? Connectivity is important because, the more connected a street network is, the more travel options exist. This limits the strain on any particular route or intersection, and allows traffic to take alternate routes as primary routes become congested. A lack of connectedness in a street network over time forces collectors and arterials to become more congested and will often require public investment in widening or otherwise improving those routes to handle more traffic. Those improvements, through a process known as *induced demand*³, will then draw new traffic to the routes, reducing the value of the improvements considerably sooner than might be expected. Providing a higher level of street connectivity as development occurs will help reduce the long-term strain on the road network.

Transportation Choices

The automobile is the dominant form of transportation in Lincoln. While that is not expected to change now or in the future, there is no question that Lincoln's reliability on that form of transportation will place an increasing strain on the City's transportation network over time. In a future of increasing fiscal constraints, searching for alternate ways to relieve pressure on the road network is desirable. Connectivity, mentioned earlier, is one method. Reducing vehicle trips is another. In part the plan seeks to reduce vehicle trips through reducing trip lengths and frequency; this is accomplished by providing daily needs in closer proximity to the places where people live. Providing for alternate forms of transportation is another way to reduce vehicle trips. Alternate forms of transportation include walking, biking, and mass transit. One way to better integrate various transportation facilities into a given street segment is through adoption of Complete Streets standards. Complete Streets "are designed to safely accommodate pedestrians, bicyclists, motorists, and transit riders of all ages and abilities so that they will be able to safely move along and across a complete street. Complete Streets make it easy to cross the street, walk to shops, and bicycle to work. They allow buses to run on time and make it safe for people to walk to and from train stations."⁴

At present, walking is a viable transportation choice in some parts of the City. A walkable community has benefits beyond providing an alternate form of transportation: walking is demonstrably good for public health; provides improved accessibility; and is necessary for the creation of the vibrant mixed-use neighborhoods discussed in the land use section. The City should work to expand the network of sidewalks and to develop a Sidewalk Master Plan to make connections for a City-wide network of on- and off-street facilities. The on-street sidewalk network, in particular, should be expanded in and to locations where walkability is desirable. As development occurs, providing options for construction of pedestrian facilities; off-street trail

networks or more limited pedestrian facilities will be more appropriate in some locations. Efforts to support pedestrian safety should also be examined.

Bicycles represent an efficient, non-polluting transportation alternative that is particularly viable in and near Lincoln central core. The bicycling community is made up of both recreational users as well as bicycle commuters. A network of bicycle facilities should be designed to accommodate both types of users, with an appropriate mix of the off-street and on-street facilities. Bicycle connectivity should be considered as part of the development review process; encouraging placement of bike racks in new non-residential development would also be positive.

Citywide Signage

Effective signage systems help visitors and residents navigate successfully from place to place and improve safety. The City should develop a wayfinding plan aimed at designing and building a network of signs Citywide. Opportunities also exist for upgrading pedestrian signals and street lights to enhance safety on City streets.

Land Use-Transportation Connection

One of the organizing principles of Comprehensive Planning is that land use influences the transportation network, and vice-versa. Fundamentally, traffic demand is driven by two factors: employment, and housing. All trips, vehicular or otherwise, have origins and destinations; determining where people want to go, when they want to do it, and in what order, is at the heart of traffic demand modeling. It follows, then, that employment is a function of the presence of employers, which can be commercial, industrial, or institutional establishments, or may be home occupations. The actual locations of those establishments, as well as the housing that is the second factor driving traffic demand, are determined by the market, which operates within a framework established by zoning, which is administered by local governments. Zoning should ideally reflect a jurisdiction's Future Land Use Plan, so that the locations of future development and redevelopments align with planned future investments in civic infrastructure and civic goals established in the comprehensive plan, such as promoting infill development and mixed-use centers. At present, all of those alignments do not yet exist. Completing **CompPlan 2035** is the first step in a process of beginning to align civic investment with community vision.

The Land Use First strategy is the idea that the Future Land Use Plan should drive investment in transportation infrastructure, and not vice-versa; that changes in land use should not take place just because a new street connection is made or a new roadway alignment built, but instead those street construction projects should take place because they support the City of Lincoln's vision for the type, location, and scale of new development and redevelopment.

The idea behind examining transportation funding options is not to increase fees overall but to spread fees across all users. As it stands, developers are required to pay for transportation improvements as indicated by their individual traffic studies. Often times this results in

inequities, as the first or last developer in is required to pay for improvements that either benefit all who follow or were only needed due to incremental prior development. The intent is to spread those costs across all users instead of the first or last in, not to increase costs overall.

Parking

A transportation network that relies on automobiles will always need a place to put them when they are not in use. It is important to balance the amount of parking provided for development, to ensure that adequate parking exists, but also so that excessive parking is not required. Excessive parking has many negative effects, including increasing impervious surfaces, thus increasing the amount of stormwater runoff. Excessive parking also reduces the amount of land available for actual development, limiting investment in that land and thus reducing tax revenue to local governments.

Stand-alone surface parking lots should be strongly discouraged, particular at street intersection corners. The use of prime developable land purely for parking is a misuse of funding. Should additional parking be needed to the extent that a parking area unattached to development must be built, a better use of funds would be to develop small vertical parking facilities which maximize the use of the land. Further parking decks in prime commercial areas should be fronted with retail or office space such that the deck is not visible from the public right-of-way. *(See Franklin, Tennessee example)*

GOALS:

The Transportation Committee identified four primary goals for inclusion in the City's Comprehensive Plan. Along with these goals have been provided recommended action items for which the City will need to formulate policies and programs to carry out.

T-1. *Improve/Eliminate current congestion & unsafe road conditions.*

- a. Provide improved street connectivity to reduce distance traveled, reduce congestion, reduce maintenance costs, improve walkability, and improve emergency services response times.
- b. Develop a Major Street Plan to reflect land uses proposed in the Future Land Use Plan. Provide future updates in conjunction with updates to the Future Land Use Plan.
- c. Encourage reduction in the use of dead-end streets and cul-de-sacs in new subdivisions.

- d. As part of a future downtown revitalization plan, assess opportunities for improved street connectivity as redevelopment occurs.
- e. Implement road improvements as identified in the proposed Comprehensive Transportation Plan.

T-2. Develop alternate forms of transportation to augment vehicular transportation.

- a. Provide a well-balanced range of transportation choices including a well-functioning road network, a viable transit system and a system of on- and off-street walking/biking paths that connect the places we live, work, learn and play.
- b. Require construction of new sidewalks as development occurs along existing streets.
- c. Provide a system of on- and off-street walking/biking paths that connect the places we live, work, learn and play.
- d. Improve integration between bicycle and pedestrian paths and trails. Initiate formal discussions between bicycle and pedestrian interest groups on how best to accomplish this.
- e. Review opportunities for providing rails-to-trails conversions

T-3. Upgrade City ordinances and regulations to require higher standards for road/street development and maintenance.

- a. Balance the needs of transportation and land use, recognizing the intrinsic connections between both.
- b. Work to align investments in transportation infrastructure with proposed future land uses.
- c. Review the City's current parking regulations and consider methods for reducing excess parking in order to promote the highest and best use of land, as well as determining what uses many require additional parking.

T-4. Develop standards to improve streetscapes and community character.

- a. Consider adopting Complete Streets standards. Complete Streets are designed and operated to enable safe access for all users.

- b. Provide an effective and attractive system of city-wide signage and lighting to safely convey and direct visitors and residents to a full-range of destinations.
- c. Complete a wayfinding plan for the City.
- d. Install lighted street signs at key intersections downtown and on major gateway corridors.
- e. Evaluate the existing street light system to determine if improvements are needed.
- f. Develop street landscaping standards and ensure the continuation of historic downtown streetscapes for new development in the district

¹ http://www.america2050.org/piedmont_atlantic.html

² Introduction to Integrating Climate Change into the Transportation Planning Process - Federal Highway Administration, Final Report, July 2008

³ J. J. Leeming (1969). Road Accidents: Prevent or Punish. Cassell. SBN 304932132.

⁴ From <http://www.completestreets.org/complete-streets-fundamentals/complete-streets-faq/>